



Healthcare

Upgrading vital hospital systems with a **simple, secure, scalable** HCI solution

Osaka Kaisei Hospital

Osaka Kaisei Hospital worked with Lenovo Professional Services to upgrade the infrastructure underpinning critical systems with Lenovo ThinkAgile MX Series, powered by 4th Gen Intel® Xeon® Scalable processors.

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Who is Osaka Kaisei Hospital?

Osaka Kaisei Hospital has been providing medical care in the city for more than 120 years. It was founded in 1900 as a private hospital before undergoing reorganization and incorporation in 1926. Its development over the years has followed the motto of “Equal Benevolence, Humanity, and Charity”. The hospital is currently located in Yodogawa Ward, just a three-minute walk from Shin-Osaka Station.

While focused on the comprehensive community care system, Osaka Kaisei Hospital also plays an important role in providing emergency medical care to an aging population. It is an acute care hospital and secondary emergency designated hospital. It handles more than 3,000 emergency patient transfers each year and provides 24/7 medical care. In March 2024, it was certified as a “referral-focused medical institution”, where care prioritizes a referral letter from a family doctor. The hospital has been using an electronic medical record (EMR) system since 2005 and actively promotes the use of ICT. For example, it started using an online system of health insurance verification in July 2022.



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“As a key medical institution for referrals, we would like to further contribute to local medical care by promoting collaboration with local clinics, nursing homes, and other healthcare organizations through information sharing. We plan to continue actively utilizing ICT to enhance operations.”

Mr. Takeru Maeda

Manager, Medical Information Section, Medical Administration Department,
Osaka Kaisei Hospital

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The Challenge

In 2023, Osaka Kaisei Hospital was due to replace its EMR system, which had been in operation for 10 years along with the underlying IT infrastructure supporting it. This presented an opportunity for further upgrades, namely the virtualization platform underpinning the EMR and other key departmental systems.

The virtualization platform supported more than 20 key systems used by around 700 employees, including a recently deployed surgical anesthesia system, a nutrition management system, an incident management system, a dialysis information system, a medical certificate creation system, a prescription management system, and a regional medical cooperation system.

Mr. Takeru Maeda comments: “The virtualization platform was running on two types of virtualized servers that had been in operation for five and ten years respectively. The oldest server ran systems with a limited impact on business operations, and most business systems ran on the five-year-old server. However, there were issues with the hardware specifications, and we were unable to add more physical servers. We needed a new virtualization platform to run the departmental systems stably.”



Another concern for Osaka Kaisei Hospital was security, as Mr. Takeru Maeda explains: “There have been reports of cyberattacks, such as ransomware attacks, on other healthcare organizations that have shut down their systems. In response, we felt the need to further strengthen our own security measures, including our antivirus and backup strategies.”

He adds: “Previously, we promoted in-house system development within the hospital. However, this meant that some systems were difficult to maintain because we relied on the knowledge of specific individuals. To eliminate this dependency on individuals and the need for highly specialized skills in house, we looked for a technology partner that could support us.”

To resolve these issues and ease these concerns, Osaka Kaisei Hospital decided to replace its virtualization platform with a hyperconverged infrastructure (HCI) from a new vendor.

Selecting Lenovo ThinkAgile MX Series

After evaluating proposals from several vendors, Osaka Kaisei Hospital selected a HCI solution based on Lenovo ThinkAgile MX Series.

Specifically, the hospital chose Lenovo ThinkAgile MX630 V3 Integrated Systems powered by 4th Gen Intel® Xeon® Scalable processors, which provide up to 2.78x higher virtualization performance vs. a 5-year platform—fully validated and integrated Lenovo hardware and firmware that is also certified for Microsoft Azure Stack HCI solutions.¹

Lenovo ThinkAgile MX Series combines compute, storage, software, and networking in a single chassis for simplified configuration, operation, and management. The hyperconverged nature of the solution enables easy expansion of compute and storage capacity, with redundancy built in.

Hardware

Lenovo ThinkAgile MX630 V3 Integrated Systems powered by 4th Gen Intel® Xeon® Scalable processors
Lenovo ThinkSystem SR650 V3
Lenovo ThinkSystem SR250 V2
Lenovo ThinkCentre M70s Small Gen 3 desktop PCs
Lenovo ThinkPad E16 Gen 1 laptops

Software

Microsoft Azure Stack HCI
Microsoft Windows Server
Red Hat Enterprise Linux
Veeam Backup & Replication

Services

Lenovo Premier Support
Lenovo Professional Services

¹ See [W11] at [intel.com/processorclaims](https://www.intel.com/processorclaims): 4th Gen Intel® Xeon® Scalable Processors. Results may vary.

ICT upgrade

Osaka Kaisei Hospital implemented two all-flash Lenovo ThinkAgile MX630 V3 Integrated Systems as the new virtualization platform underpinning its EMR and departmental systems, along with a Lenovo ThinkSystem SR250 V2 server as a management node. For backup, the hospital deployed a Lenovo ThinkSystem SR650 V3 server running Veeam Backup & Replication—improving security and ensuring preparation for ransomware attacks.

The servers were manufactured by NEC PC (a member of the Lenovo Group) at their Yonezawa facility in Yamagata Prefecture. The factory is unique in that it can build servers with high-quality customization, from production to pre-delivery inspection, memory expansion, and software preloading.

Osaka Kaisei Hospital also chose to upgrade its client PCs with Lenovo devices. The hospital deployed 250 Lenovo ThinkCentre M70s Small Gen 3 small form factor desktop PCs, 200 Lenovo ThinkPad E16 Gen 1 laptops, and an additional 50 ThinkCentre M70s Small Gen 3 for employees.

Why **Lenovo**?

For Osaka Kaisei Hospital, trust and reliability were the main reasons for selecting Lenovo's proposal. "We felt Lenovo was very trustworthy, and the proposal was well received by upper management," confirms Mr. Takeru Maeda.

He elaborates: "We didn't have much knowledge of virtual servers, but the Lenovo team answered all our questions about server configuration specifications and so on in a way that was very easy to understand. I felt that their careful responses created a sense of trust in the company. While I was aware of HCI, I didn't fully appreciate the benefits it could bring. The Lenovo team explained the benefits very clearly, outlining how HCI offered greater simplicity, scalability, flexibility, and cost efficiency.

The hospital was also impressed by backup environment included as part of the solution, which will significantly shorten recovery time in the unlikely event of a cyberattack.



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“Years ago, it was common to take systems offline in order to migrate them to a new platform. Today, ICT systems such as our EMR and departmental systems are absolutely critical to delivering medical care, so we were quite anxious about the migration. There was a lot of careful coordination with each department and the ISV of each department’s system.”

Mr. Takeru Maeda

Manager, Medical Information Section, Medical Administration Department,
Osaka Kaisei Hospital

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Results

Working with Lenovo and the ISV vendors of each departmental system, Osaka Kaisei Hospital completed the virtualization platform upgrade from September 2023 to February 2024. The migration of the EMR and departmental systems and all the associated data was completed with just half a day's scheduled downtime. Lenovo not only delivered the HCI solution, but also supported the implementation and migration through Lenovo Professional Services who worked alongside the hospital's ICT team.

Mr. Takeru Maeda expressed his gratitude for Lenovo's support during the implementation, saying: "We went through advance preparations together and, despite a tight schedule and time constraints, the upgrade went smoothly and without any major issues. We had some minor issues with the system settings, but the Lenovo team responded immediately, which was very helpful. As this was our first time upgrading our EMR system, there were quite a few unknowns, but Lenovo and the other vendors answered all our questions. The support from Lenovo was particularly encouraging, and I believe this drove us to achieve stable operations in a short period of time. The skill and experience of the Lenovo Professional Services team, who have worked on numerous similar projects, really shone through."



Smooth migration



Simple management



Seamless scalability

Evolving partnership

Osaka Kaisei Hospital's new virtualization platform went into full operation in February 2024 and has been running stably ever since—a clear indicator of the success of the upgrade project.

Mr. Takeru Maeda comments: “It is now easier to add departmental systems to the virtualized environment. With the previous platform, administrators had to start up a guest OS and follow complicated instructions to add a new system. Now, we use ready-made templates, so even staff who aren't familiar with the solution can easily operate it. It's also easier and less stressful to restart client PCs when required. The fact that we are not reliant on individuals with advanced skills is a much better fit for our needs.”

Since go-live, Osaka Kaisei Hospital has already added several departmental systems to the new virtualization platform. In the future, the hospital plans to add a nurse call system and to link mobile devices with vital sign monitoring and infusion pump equipment. The hospital is also considering expanding its systems with a medical equipment management system, infection management system, ICU system, and endoscopy system. With a more scalable virtualization platform, Osaka Kaisei Hospital is better equipped to expand its portfolio of systems.

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“We hope that Lenovo will continue to support us. The use of ICT at Osaka Kaisei Hospital will continue to grow in the future, particularly with greater information-sharing and collaboration with healthcare organizations in the region. We plan to continue promoting digital transformation within the hospital, and our partnership with Lenovo will help us to achieve this goal.”

Mr. Takeru Maeda

Manager, Medical Information Section, Medical Administration Department,
Osaka Kaisei Hospital

How can hospitals keep critical systems running reliably?

Osaka Kaisei Hospital upgraded the platform underpinning key departmental and EMR systems with a HCI solution based on Lenovo and Intel® technology.

Explore Lenovo ThinkAgile MX Series

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